ENGINEERING NEWS-RECORD

Rear Admiral
CARL H. COTTER
Director Pacific Division
Bureau of Yards and Docks

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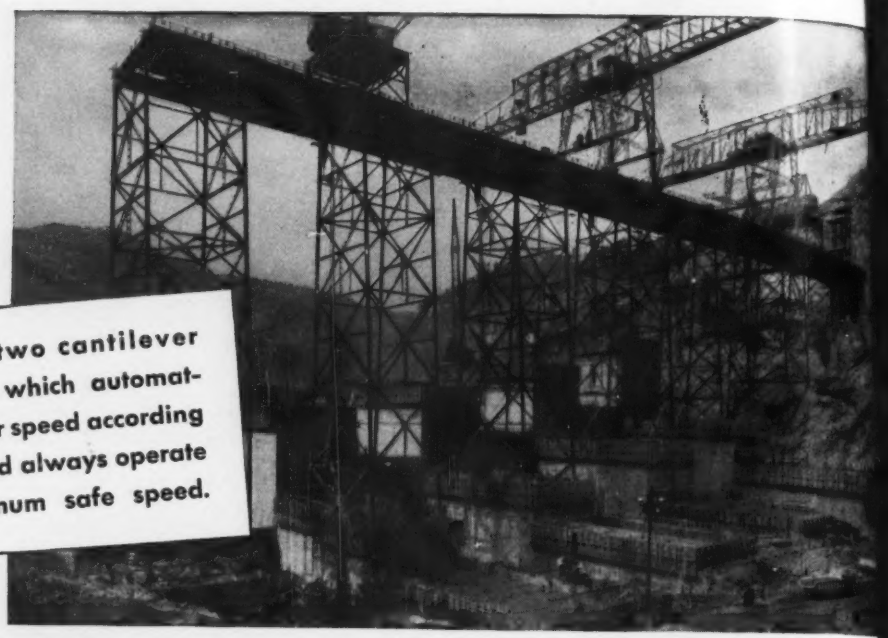
Two Cantilever Cranes That WEIGH THE LOADS They Li



The story of two cantilever gantry cranes which automatically vary their speed according to the load, and always operate at the maximum safe speed.

By

M. A. WHITING

Industrial Engineering Division, General Electric Company

A NEW type of electric equipment on two large cantilever gantry cranes fulfills the need of a dam builder for equipment which enables him to pour concrete safely at a faster rate than ever before.

These cranes are furnished with 3-phase a-c power supply. They have a 300-foot "wingspread," operate along the top of a trestle 250 feet high, and can handle 4-yard buckets of concrete as readily as you can handle a pail.

The secret of their speed and accuracy lies in their unique hoisting equipment, which in effect weighs each load. The "brains" of this weighing operation is a development called the cross-flux exciter—about the size of a bushel basket. This device measures the load on the crane continuously and automatically, and controls the hoisting and lowering speeds accordingly, operating on the a-c power supply. *The lighter the load, the higher the speed; the heavier the load, the lower the speed—both hoisting and lowering.* This feat has heretofore been considered impossible except by the use of a complicated battery of sensitive load-responsive relays.

When the crane picks up a bucketful of concrete, the operator does not need to worry about safe operating speeds. The crane assumes that responsibility. After the load of concrete has been lowered into position and dumped, the operator returns the empty bucket to the starting point at speeds up to twice as high as those used in handling the full bucket. The cross-flux exciter "feels" the change of load, and controls the speed accordingly.

In case the bucket jams and refuses to budge, the electrical "brain" permits the crane to pull just so hard and no harder. That is to protect against picking up a load too heavy for the crane, which might overtu when the load is trolleyed out the end of one of the arms.

The trolley operation is also u usual in that the customary rela and protective devices are dispens with. Instead, a small motor t size of that on a washing machi irons out the accelerating peak assuring a smooth rate of change speed under all conditions. This is valuable asset in limiting the swi of the heavy bucket while trolleyi

This is another example of the ap plication of new techniques to sol a construction problem created b today's needs. If you have a difficu problem where the experience an skill of G-E engineers can be of help we should like to work with you. Gen eral Electric Company, Schenectady New York.

★

The best investment in the world is in this country's future—

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The Week In Engineering and Construction

ENGINEERING NEWS-RECORD • JUNE 22, 1944 • VOLUME 132 • NUMBER 25

Federal aid for city plans needed to stop postwar WPA

Colonel Carey tells American Water Works Association that failure of cities to complete postwar work programs calls for federal stimulation and control.

Local governments will not or can-t proceed with their planning of ostwar public works unless they are ven the incentive of some kind of deral assistance, Col. William N. arey, chief engineer of the Federal orks Agency, told the American ater Works Association meeting at ilwaukee on June 13–16. The fail-re of municipalities to complete their ans, may result in another WPA type program as a postwar eventuality, he id, because some kind of emergency elief will have to be devised if mass nemployment overtakes the country.

Stating that the Congress is show-g signs of declaring itself on the atter, Colonel Carey expressed the pinion that some form of federal mone-ry aid for public works planning oupled with central control will be orthcoming. However, he pointed out, no registered rider of the Washington erry-go-round expects Congress to say ow whether or not there shall be fed-ral assistance for construction of ostwar works."

Convention highlights

This statement on possible future ederal policy highlighted the general ession of AWWA's 64th conference at hich A. M. Rawn, chief engineer of he Los Angeles County Sanitation Dis-rict reported developments on em-loyee organization in professional ields and Edward Falck, director of he Office of War Utilities reviewed the ccomplishments of this branch of the War Production Board. At the tech-ical sessions which were focused largely on waterworks management roblems, two new developments—re-overy of calcium carbonate from ater softening sludge and the design f diatomite water filters for field roops—claimed special attention.

War travel conditions notwithstand-ng, a total of 1,356 were registered at the convention. This compares with 1,131 last year and 1,467, the all-time record made in 1940. Eighty-five manufacturers were represented in the exhibit hall, but there was virtually no equipment shown, primary reliance for display being placed on photographs and printed material. Last year 74 manufacturers had exhibit booths.

In spite of almost unanimous agreement that all local subdivisions of government should be diligently at work now on preparing plans for public construction, the general inertia is most surprising, said Colonel Carey. Local communities seem to be waiting for some outside source to start their work for them. And although many municipalities are now able to finance their own planning it is exceedingly doubtful if enough cities will on their own initiative plan a program of sufficient size to be a really important factor in the postwar adjustment. The possibility that the federal government eventually will provide funds for local planning is at present retarding action, in his opinion.

Pointing out that the invasion of the

(*Continued on p. 2*)

Milwaukee Sen.Inel photo

Waterworks officials inspect filtration plant model

One of the highlights of the 64th convention of the American Water Works Association meeting in Milwaukee last week was an inspection of the city's filtration plant. For those who were unable to take time out to make the visit, a model was set up in the convention auditorium.

Among those who took advantage of this convenience were: Harry Jordan, secretary of the A.W.W.A.; Charles A. McGinnis, past president of the Water and Sewage Works Manufacturers' Association; and Arthur T. Clark, secretary-manager of that group. Details of the plant are being described by Joseph P. Schwada (extreme right), city engineer of Milwaukee.

European continent brings added emphasis to the fact that the time left for the preparation of postwar plans is running out fast, Colonel Carey urged acceleration of speed in planning for both private and public construction. A well-filled reservoir of ready projects, subject to national control as to when and where they are to be undertaken, will provide the power to deflect unemployment spirals.

"Controlled public works can be the gyroscopic stabilizer on our industrial ship of state to help it take safely the rough seas of our postwar years", he concluded. Colonel Carey gave no indication how this "national control" might be exercised or by whom.

Collective bargaining today

Collective bargaining as manifested by labor union activity is one of the most potent forces in this nation today, said A. M. Rawn, who predicted that the privileges of collective bargaining would be extended to all employees in some form or other. The future must be viewed by the professional employee in a practical manner, and he urged that engineers and others who are engaged in public service enterprises become familiar and be prepared to assume for themselves all of the rights and privileges which the law extends to employees.

A.W.W.A. President-elect Sam F. Newkirk, Jr.

Professional men have had to call upon the resources of their technical organizations to prove that they were professional and that as such they had a community of interest not common to nonprofessionals and therefore were entitled to be excluded from heterogeneous bargaining groups designed to include both those of professional and non-professional status.

Merely staying out of the heterogeneous bargaining group is not enough, said Mr. Rawn, to prevent the representatives thereof from assuming the bargaining rights of the professional employee in an office that has been organized; neither is it enough to permit him adequate representation to his employer upon wages, hours and working conditions.

To fully protect himself from domination by non-professionals, the professional man must not only insist that he be excluded from trades and labor organizations but, if necessary, he must be prepared to organize and bargain collectively in his own behalf. Whether they like it or not, concluded Mr. Rawn, these are the things with which professional engineers are confronted. Therefore, he recommended that they keep alert to the situation and be fully informed of the rights and privileges accorded to both employer and employee.

Waterworks men have reason to be proud of the job they have done to implement the efforts of the fighting forces, reported Edward Falck, director of the Office of War Utilities of the WPB. In a lengthy review of the activities of his office, he cited the unusual demands that had been made on water service utilities. War needs, he stated, called for tremendous quantities of water to maintain industrial production, examples being: 75 tons of water for 1 ton of steel production; 100 gal. for every gallon of alcohol; 130 gal. for each pound of synthetic rubber; and 125,000 gal. to complete the testing of an airplane engine.

Diatomite filters for troops

Heretofore restricted information on the diatomite filtration equipment developed for army troops was presented by Capt. Hayse H. Black and Charles H. Spaulding, both of the water supply equipment branch, Corps of Engineers. Two sizes of filter have been develo for field use—one has 3.6 sq. ft. of fi area, a capacity of 15 gpm., and wei 50 lb., the other has 10 sq. ft. of are capacity of 50 gpm., and weighs 350

The filters, using diatomaceous e as the filter medium, possess the spe property of virtually removing all wa borne cysts causing amoebic dysente It was stated that the principles of sign may possibly have wide applicat

Wolman Overseas

A war assignment in Great Britain interfered with the presentation of a paper on postwar development in the United States, which Abel Wolman was to deliver at the Milwaukee meeting of the American Water Works Association last week.

Prof. Wolman, who is chairman of the Committee on Water and Sewage Works Development, had to make a last-minute cancellation of his appearance at the convention. He was scheduled to leave this country last Saturday on a mission regarding which details could not be revealed.

in other fields of water purification o side immediate military needs.

A practical and low-cost method f recovering calcium carbonate from w ter softening sludge, which was d velop for the 22 mgd. water treatme plant at the Wright Aeronautical Cor works in Cincinnati, was described R. T. Sheen, associate director, W. and L. D. Betz, Philadelphia, and H. Lammers, assistant plant engineer of t Wright Corp. The process involves m chanical thickening of the waste sludg centrifuging of the thickened sludge further reduce its moisture conte and flash drying. The reclaimed c cium carbonate is sold at prices of to $8 a ton; original cost of the li purchased for water treatment is $ a ton.

Further details concerning the dia mite filter and the calcium carbona process, as well as abstracts of oth papers presented at the technical se sions, will be published in a forthcom ing issue.

Samuel F. Newkirk, Jr., who w

(*Continued on page* 6)

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AFL plan for recruiting labor fails to reduce West Coast shortage

West Coast agreement between Navy and American Federation of Labor does not produce labor needed for big Navy construction program in that region.

Pacific Coast Navy men are becoming concerned over the failure of an exclusive labor recruiting agreement entered into with the American Federation of Labor to produce the men needed to complete nearly $400,000,000 worth of Navy construction. The first of these agreements was entered into more than a month ago between representatives of the AFL unions and the Eleventh Naval District with headquarters at San Diego, where 1,000 workers are needed. After being in effect for three weeks, less than one score workers had been recruited. A similar agreement is in effect in the Twelfth Naval District (San Francisco) and one has been negotiated for the Thirteenth district at Seattle.

Under the terms of the agreeemnt, contractors engaged on the projects are not only relieved of the responsibility of recruiting their workers but are under explicit instructions from the Navy to hire through the unions.

The unions hoped to be able to obtain labor in the Midwest and East where war contracts are being cut back.

Some of the details of the system in use on the West Coast are given in the following instructions issued to private contractors by Naval authorities:

"The contractor should prepare a list by trades of his labor requirements for the construction period. The contractor should then consult with labor unions involved as to the labor available in the local labor area, determining the number and class of personnel that it will be necessary to recruit and import.

"Upon determining the number of men necessary to recruit, the contractor should inform the building trades council or the individual trade union of the requirements by letter, requesting that these men be recruited. This letter should have the approval of the officer in charge of construction or his representative.

"After supplying the unions with the list of recruited labor required the contractor should maintain close contact with the unions in order to expedite the recruitment and travel for the men required, sending the contractor's representatives to the recruiting area when desirable and if approved by the officer in charge of construction."

Provisions are made for reimbursing cost of travel of workers recruited more than 100 miles from the site of the project on which they are to be employed. Despite this, the scheme is described as having failed in the initial effort to recruit 25,000 to 30,000 workers from outside the area who are immediately needed on important Navy projects from San Diego, Calif., to Seattle, Wash.

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War Department permits Bolivar tunnel work

On May 22, the Commissioners Court at Galveston, Tex., accepted a permit from the War Department to construct the proposed $8,700,000 vehicular toll tunnel from Galveston Island to Port Bolivar (*ENR* Aug. 24, 1939, p. 254). The Commissioners Court also approved revisions in the design of the tunnel. According to Wayne F. Palmer of Palmer and Baker, Inc., of Mobile, Ala., retained for the engineering work, the length of the project has been extended to 5,232 ft., with 4,100 ft. of trestle, to overcome objections advanced by shipping interests. Plans call for a 24-ft. roadway and a 5-ft. sidewalk.

Under a special act of the legislature, bonds for the project must be liquidated by revenue derived from it.

CNS Photo

A 140-coolie-power "tractor" for roller on B-29 airbase in China

Early in January the most massive Chinese construction project since the building of the Great Wall of China centuries ago was inaugurated, under the direction of American army engineers, when Chinese farmers, working with little else than their hands (ENR Dec. 30, p. 440), started conversion of ancient rice paddies into great modern airbases meeting exacting engineering specifications. Using tools and methods as old as history, some 158,000 tons of rock and sand were hauled for use in runways and ramps by a labor force numbering 430,000 persons.

Seventeen days after labor requirements had been stated 300,000 Chinese had been assembled. They came to the fields with baskets, hoes, bedding and food. By March 15 runways were conditioned to receive airplanes in an emergency and by May 15 all-weather fields were completed.

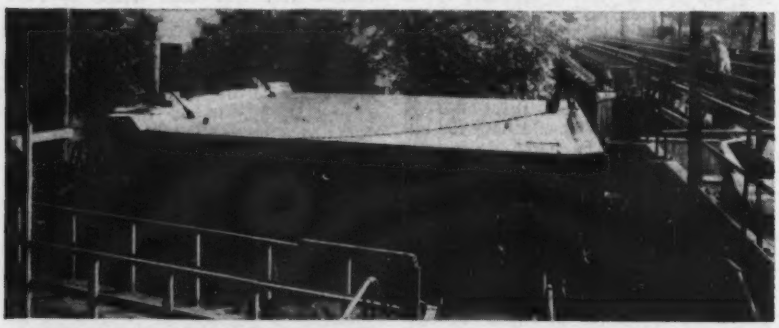
On April 24, three months to the day from ground-breaking of the first rice paddy, the first B-29 Superfortress landed on the new fields.

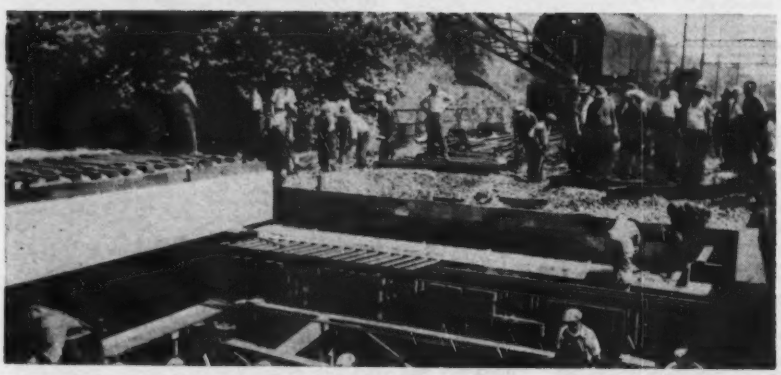
Marquette Cement Co. files appeal against FTC delivered-price order

Federal Trade Commission charged before Court of Appeals with having suppressed evidence of its own bias during hearing it held

In filing an appeal before the U. S. Circuit Court of Appeals, Seventh Circuit, Chicago, against the Federal Trade Commission order of last July calling for abandonment of the delivered-price system in the cement industry, the Marquette Cement Manufacturing Co. and participating firms find the commission seeks to block evidence of bias and prejudice in the case offered by Marquette. The order was reviewed in *Engineering News-Record* July 29, 1943, p 180. The disputed evidence consists of 23 exhibits of pamphlets and news releases issue by the commission for publication prior to 1941, two years before the date of the order.

Edward A. Zimmerman, counsel for Marquette, in seeking permission to present the exhibits says: "The question before the court is whether any commission or so-called administrative agency can conduct a smear campaign against a business or industry, charging it publicly with violation of law, thereafter, having reached and published a conclusion as to guilt of unfortunate accused, proceed to formulate its own charges, issue its complaint and try the accused, and then prevent a reviewing court from receiving considering the evidence of the smear campaign as a reason for disqualifying the agency as biased and prejudiced. He says further that by seeking to avoid the consequences of bias, that disqualification such as would be applied to any judge or jury, the commission sets itself up above all judges and juries of our courts. In such action, the counsel points out, the commission arrogates to itself complete power to rule the destiny of business in the United States in a manner involving alleged unfair practices.





Prepared span rolled into place on Pennsylvania R. R.

Seven months to prepare—15 minutes to put in place—is the brief story of a 42 ft. long slab bridge rolled into position on the Pennsylvania Railroad's four track main line at Torresdale, Pa. The slab composed of 22-33-in. I beams encased in concrete replaces one span of a five arch bridge built in 1886 and is intended to provide greater longitudinal and vertical clearance below.

The slab bridge was built in halves on falsework on each side of the existing structure. They were prepared complete with ballast and ties in place and carefully planned for rapid final positioning. When one-half of the span was ready, traffic was routed over the two tracks on the opposite side, the two near tracks were removed and the temporary supports demolished. One-half the new bridge then was rolled in to position and five 100-ton jacks used at each end of the slab to raise it for removal of blocking and lower it to the bridge seat.

Actual rolling and jacking down took 15 minutes. The whole operation, tracks out and back, removing falsework, track, stringers, rolling in slab and jacking down took five hours. Complete preparation of the new slab bridge and structure and removal of the old arch span required seven months. The work was under supervision of the Pennsylvania Railroad with construction planned and executed by Brann & Stuart Co. of Philadelphia.

Marquette charged bias long ag

In 1937 the commission began pr ceedings against the Cement Institu and its 75 members for the alleg use of a system of pricing held to in violation of the anti-trust laws. E dence was taken by a trial examin appointed by the commission. Bef the evidence was considered and t case argued Marquette filed a petiti to disqualify the commission for pr judgment of the issues. Counsel f the commission, according to Mr. Zi merman, when made aware of the p tition requested that no mention made of the charges in oral argume before the commission "so as to avo unpleasant publicity." Marquette counsel agreed to this as a matter courtesy.

The commission took Marquette's m tion and the exhibits and held th whole matter in suppression for months. Then, at the time it issued restraining order against the ceme industry last year, refused to adm the exhibits in evidence and deni the petition to disqualify the commi sion for bias and prejudice.

In statements urging the court deny Marquette and other cement manu facturers the right to have the exhibi claiming bias presented in evidence, th commission makes a point of the fa that not all of the manufacturers ha joined Marquette in the petition to di qualify. The defense counsel holds thi point immaterial in the face of a stat ment by the commission that "Of cour the success of any petitioner on an such motions would redound to th benefit of all."

Mr. Zimmerman states that shou the court hold that the commissi should be disqualified it will not b necessary to take all the testimony ov again, as some cement companies fear

OUR ENGINEER ADMIRALS

Director, Pacific Division, Bureau of Yards & Docks

REAR ADMIRAL CARL H. COTTER

Who is the officer with the penetrat- eye?" has been asked about Rear miral Carl H. Cotter (CEC), USN, o is now "Dirpacdock," a word that ms to have magic properties out in ific theaters of operation where it nds for Director, Pacific Division, reau of Yards & Docks, U. S. Navy. really isn't magic, of course. A large t of the explanation is in the spirit t has been instilled into the bureau's est branch organization known as Seabees, those "can-do" construc- workers in naval uniform who are ddies of the Marines.

The sort of spirit for which the Sea- s are noted is something that doesn't t happen, it has to be inherent in an anization as one of its underlying nciples. Admiral Cotter does much foster this spirit by his own example. s energy, his willingness to tackle ything and the certainty with which follows through are an inspiration to men. The effect upon them is per- ps the nearest approach to magic. rtainly it promotes the "can-do" atti- de that has become so characteristic the Seabees.

Admiral Cotter handles his work by ng personally to the critical spots. s offices at San Francisco and Pearl rbor may see little or nothing of him weeks on end. If you drop in at one these offices you'll be likely to learn at "he was in Washington last week, w he's down at Funa Futi and Ton- tabu. Chances are he'll visit Seabee ttalions up near the front in New inea, in the Caroline Islands, and on ugainville before he returns."

In his first 14 mo. as Dirpacdock he veled 115,945 mi. by air and 34,278 . by "surface." During this period e spent in his San Francisco office aled 99 days and in the office at Pearl 89 days—the other 436 days were spent in the field! He visits all of his jobs, and everywhere he is welcomed. Officers at the outposts look forward to his visits; are eager to show him around. On such a visit, after a quick survey he

Rear Admiral Carl H. Cotter

will ask pertinent questions about phases of the work that are or may become critical in speed or materials. This brings enthusiastic response because his field officers know they have in him a friend who understands. Relying thus on his sympathetic support are officers in command of almost every conceivable kind of construction project and scores of vital bases and supply depots in widely dispersed spots where some of the most important work in the war program is under way.

The "penetrating eye" often has a kindly twinkle. The personality behind it is quick to forgive a mistake made in an endeavor to get results, but has no patience with the man who doesn't make decisions. An aide who was called in suddenly to handle one of his offices while the Admiral was to be away, inquired as to his instructions. "Oh, just take over," said the Admiral. "Decide what needs to be decided. Any mistake you make will be my mistake."

Admiral Cotter practices this doctrine of making decisions. He avoids details, gets the essentials of an over-all picture and then is sure-fire on action. Perhaps it is this trait that has built up his reputation for getting things done. During a tour of duty in Haiti the natives gave him the nickname of "Machete." He does cut away the encumbrances to accomplishment.

No man, alone, could possibly do all all that the Admiral manages to accomplish, but he keeps around him men who know how to get results. He gives them authority and responsibility; he expects them to accept both. One of his rules is: "Never do yourself what you can get someone else to do better." His men like him because of his directness and his fairness—qualities also admired by outsiders. Even a contractor who referred to him as the "No.-1 Needler" used the term with a smile at the moment he was doing what the Admiral wanted done.

Admiral Cotter was born in Essexville, near Bay City, Mich., July 11, 1892. He graduated from the University of Michigan in 1916, entered the Navy in 1918 and thus has a 26-yr. service record in the Civil Engineer Corps. During this time he gained an excellent background for his present position. In 1918 and 1919 he was on duty at the Washington Navy Yard.

(*Continued on next page*)

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From January 1920 to May 1924 he served, by appointment, as treaty engineer in Haiti during the American occupation of that country. For 4 yr. (1924 to 1928) he was attached to the Navy Yard at Bremerton, Wash., and then for 2 yr. was officer in charge of construction on the naval ammunition depot at Hawthorne, Nev. From October 1930 to July 1932 he was back at Bremerton and then was on duty with the Bureau of Yards & Docks, assigned to the office of the Assistant Secretary of the Navy, Shore Establishment Division.

In May 1935 he was given additional duty under the executive director of the National Emergency Council. This was in connection with projects under the National Industrial Recovery Act, and his selection here was because of his reputation as a man who gets things done. This he did—and at a time when the country was sorely in need of construction projects to relieve unemployment.

During most of 1939 he was on duty at Portsmouth, N. H., Navy Yard. Beginning in November, 1940, he was in charge of construction of the Jacksonville naval air station and later public works officer at the operating base at Norfolk, Va. In January, 1942, he became superintending civil engineer, representing the chief of the Bureau of Yards & Docks in the area comprising Maryland, Virginia, West Virginia and North and South Carolina.

In June, 1943, he was given the present assignment which puts him in charge of one of the largest and most important construction programs the Navy has ever undertaken. His responsibility is general direction of the Navy's civil engineering work in South, Central and Western Pacific theaters as direct representative of the chief of the Bureau of Yards & Docks. An important part of this work has been procurement and expediting delivery of materials and equipment for naval construction battalions.

Admiral Cotter comes close to being the personification of the spirit for which the Seabees are noted and which is responsible for their speed records in building, defending and repairing the bases that are major factors in the advances of our combat troops across the Pacific. He helps maintain that spirit as a continuous, motivating force by setting a vigorous example and by his decisive action. Members of his staff follow his lead loyally in the knowledge that his policy invariably means a direct route to achievement.—N. A. B.

Postwar housing aids offered by N. Y. State

Cities, towns and villages of N York State will be helped in their pl ning for postwar housing by a c munity development service est lished by the State Division of Ho ing, according to Ira S. Robbins, a ing state commissioner of housing.

The eight-point program on wh the housing division is prepared to gi aid, was outlined by Commissioner Ro bins as follows:

(1) The establishment of the facts abo housing conditions and needs for all inco groups in the community.

(2) The formulation of programs builders, lending institutions and pub agencies to meet the needs disclosed.

(3) The preparation of effective dem tion codes to eliminate unsafe or unhab able buildings.

(4) The modernization of old buildi codes.

(5) The mapping of practical progra of urban development or redevelopment.

(6) The encouragement of neighborho projects of conservation and improvemen

(7) The prevention of premature su division of vacant land.

(8) The preparation of a practical run housing program.

An illustrated booklet explaining ho the state will help communities accor ing to the best concepts of moder planning has been prepared by th Division of Housing, Albany, N. Y for free distribution.

Federal aid urged for city postwar planning

(*Continued from page 2*)

elected to the presidency of the Association last March, formally took office at this meeting. He succeeds Samuel Morris, who arrived at the convention barely in time to turn over the office, since he was delayed more than 40 hours by floods in traveling from California. Mr. Newkirk, who is engineer and superintendent of the Board of Water Commissioners, Elizabeth, N. J., has held numerous offices as director and chairman of A.W.W.A. committees.

Leonard N. Thompson, general superintendent and engineer of the St. Paul, Minn., Water Department, became vice president, and William W. Brush, editor of *Water Works Engineering*, began his 19th term in office as treasurer of the Association.

L. N. Thompson

Honorary memberships were awarded to Charles B. Burdick, consulting engineer, of Chicago; Frank E. Hale, director of laboratories of the New York City Department of Water Supply, Gas & Electricity; and Thomas H. Wiggin, consulting engineer of New York City.

W. W. Brush

Noel S. Chamberlin and John R. Glass, of the Wallace & Tiernan Co., Newark, N. J., received the Goodell prize sponsored by *Engineering News-Record*. The award was made for their paper on "Determination of Chlorine Residuals", which appeared in the August and September issues of the A.W.W.A. *Journal*.

Louis R. Howson, consulting engineer, Chicago, received the Diven medal "for his many services and valuable contributions to the advancement of the waterworks field".

At a meeting of the Water and Sewage Works Manufacturers Association, Charles H. Becker, R. D. Wood Co., was elected president for the coming year. E. M. Jones, Simplex Valve & Meter Co., was made vice president, and Edgar J. Buttenheim, *American City Magazine*, became treasurer. Arthur T. Clark, secretary-manager of the Association, was relected to serve in that post.

The Manufacturers group announced that E. L. Filby, who has been on leave of absence for one year from Black & Veatch, Kansas City, to serve as field director of the Committee on Water and Sewage Works Development, would terminate his activities with this group on July 1. No action was taken to appoint a successor at this time.

Although it was impossible to make definite plans for next year's convention, it was tentatively decided that it would be held in St. Louis early in May.

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Trinity River project to be voted on July 8

The Chambers County Commissioners Court at Anahuac, Tex. has called an election for July 8 to permit votors of Chambers and Liberty counties to vote on a $100,000 bond issue to pay for the organization of a 441,000-acre navigation district project on the Trinity River and Trinity Bay.

The proposed $25,000,000 project includes a fresh water reservoir of 96 sq. mi. in Trinity Bay to be created by impounding flood waters of the Trinity River by means of an 8½ mi. long dike; the construction of a 27-mi. deep water ship channel, connecting Liberty, Tex. with the Houston Ship Channel; the building of docks and other facilities along the watercourse; and the construction of a belt terminal railroad from Liberty to Smith's Point.

Building officials at Boston discuss postwar construction prospects

General Fleming decries lack of progress in planning public works construction; Widespread use of precast concrete units is predicted as a result of war program developments.

At the annual four-day meeting last ek in Boston of the Building Officials nference of America major attention s placed on postwar work and related blems. The meeting, which was held ntly with the Massachusetts Build- Commissioners and Inspectors Assn. d the New England Building Officials nference, attracted a total registra- n of 350.

In the belief of Maj. Gen. P. B. Flem- , administrator of the Federal Works ency, the surface has only been tched in preparing detailed engi- ering plans for postwar construction. neral Fleming cited a study by the S. Chamber of Commerce, which had nd that a total of 3.7 billion dollars public works construction is in the nning stage, including many projects y in the "consideration" stage. If s total were all projects sufficiently nned that the jobs could be adver- d for contract the day the war ends, e total would still be miserably inade- ate for this part of the construction dustry to carry its share of the ex- cted unemployment in the postwar riod, according to General Fleming.

Little municipal work

General Fleming also discussed the dy of the International City Man- ers' Association that had revealed erican cities of more than 25,000 pulation are planning capital im- ovement costing more than 4.5 mil- n dollars during the first years of the r. In speaking of this estimate he ated, "That gives us an average of 00,000,000 a year for five years, or s than half the regular government ederal) expenditures for public im- ovements in the tough depression year 1932. Moreover, from half to two- irds of this sum will be spent on aintenance and not new construction, cording to the City Managers' Associ- ion, whereas the figure cited for 1932 s all new construction in addition to aintenance."

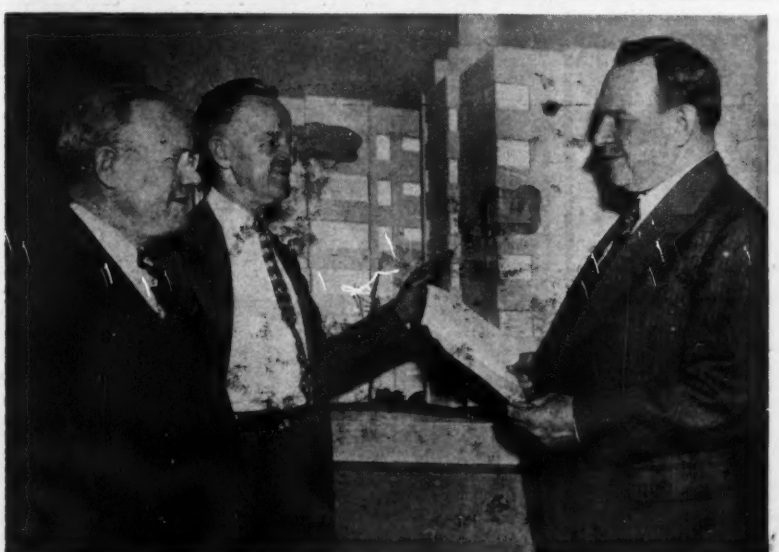
Walter C. Voss of Massachusetts In- itute of Technology stressed the value an orderly starting schedule for post- r construction projects, rather than ve a tremendous number of jobs start l at once with intensive competition r construction machinery, labor and aterials, which might result in chaotic nditions. To permit a more stable release of potential building work he suggested, "The federal, state and municipal governments should refrain from launching any public works or building programs until private demands begin to be insufficient to carry the load, or unless some improvements are absolutely necessary in the public interest. All units of government should have, and many now have, a program of work to be ready for just such a time."

A large increase in the postwar period in the use of precast members for housing, light manufacturing buildings, small piers, bridges, and retaining walls was predicted by Miles N. Clair of the Thompson & Lichtuer Co., Boston. This increased use is based upon the following reasoning: Much added knowledge in precast work has been gained as part of the war program, recent developments in the use of light-weight aggregates are conducive to use of precast members; the shortage of construction equipment will encourage precast work, which is expected to require less equipment; the better control possible over concrete manufacturing methods with precast construction as compared to field control; relatively low labor costs for shop work in manufacturing precast units as compared to field construction labor costs, and the shortage of lumber and the abundance of reinforcing steel and cement.

Other addresses were: "Construction —Past, Present and Future", T. I. Coe, American Institute of Architects; "Elimination of Home Hazards," Thos. Fansler, National Safety Council, Chicago; "Postwar Problems in the Building Industry," Dean W. R. MacCornack, school of architecture, M.I.T.; "Welding in the Postwar Period," T. R. Higgins, American Institute of Steel Construction, Inc.; "New Materials and Methods of Construction," B. A. Savage, commissioner board of standards and appeals New York; and "Floor Construction After the War," J. H. Siddall, H. H. Robertson Co., Pittsburgh.

Officers for the coming year of the Building Officials Conference of America are: President, Walker S. Lee, superintendent of buildings, Rochester, N. Y., who was re-elected; first vice president, Andrew C. H. Leak, building inspector, Kalamazoo, Mich.; second vice president, James H. Mooney, building commissioner, Boston, Mass.; and secretary-treasurer, Arthur N. Rutherford, building inspector, West Hartford.

James H. Mooney, building commissioner of Boston, was re-elected president of the New England Building Officials Conference.



Christian Science Monitor photo

Postwar planning was the topic being discussed

When the above men got together last week in Boston at the building officials conference, postwar planning was an important topic for discussion. They are, left to right: James H. Mooney, president of the New England Building Officials Conference; John J. Terry, president of the Massachusetts Building Commissioners and Inspectors Assn. and Walker S. Lee, president of the Building Officials Conference of America.

Fig. 1. One-pole erection of ribs on trial installation of new type hangar. Two poles were used on second structure.

Demountable Steel Hangar of New Design

Trial installation of a new type hangar, which is designed to be dismantled and re-erected elsewhere, was made recently by the U. S. Army Engineers at Camp Springs, Md. Subsequently this structure was dismantled and moved to Florida, where it now serves the Army Air Forces. A second structure is now nearing completion for the Air Transport Command at the National Airport, Washington, D. C.

Fig. 2. On soils of less than 3,000 lb. per sq. ft. bearing strength, the 3x6-ft. corrugated bearing plates for arch ribs must be supported on concrete footings.

Advantages claimed for the new hangar are economy of material, light weight and a minimum of space required for transportation of the required building materials. The design is also said to permit rapid erection with little construction equipment.

The Washington structure, which will be described in detail, has an inside clear span of 160 ft. at a 15-ft. elevation above floor level and a clear inside height of 48 ft. The overall length is 200 ft.

Structural framing

Bolted arch ribs of low-weight spaced 17 ft. 6 in. on centers provide the principal structural framing. Light weight, pressed structural steel channels, such as have been used for many years in industrial buildings in the South, were employed to construct the chords of the ribs, the channels being joined by diagonal bracing. Tierods are provided between the ends of the ribs below the floor.

Bracing between the ribs in the end bays consists of a horizontal cross strut at each chord point and 1-in. diagonal tierods equipped with turnbuckles. The

rmediate bays are stiffened by four izontal struts, plus the roofing els.

With the first hangar constructed ge steel roof panels or channels three alternating widths, 8, 10, and in., were attached by bolts to the er chords of the arch ribs (Fig. 3). ter drains the length of the channels, ch are of a type long used in frame- steel buildings, into the gutters med by the arches. In building the shington hangar a 1-in. insulation rd covered by four plies of roofing er was used over channels of similar ign.

At one end of the Washington hangar doorway 166 ft. wide by 20 ft. high h a 14-ft. wide tailgate opening to overall height of 40 ft. is provided. door made up of a number of leaves pported at the bottom on a single l at the center is used to close this ening. When the door is opened the joined 10-ft. 6-in. wide leaves do not escope but are stacked parallel in torage tower at each side by means of track layout shown in Fig. 4. This uires much less hardware than pre- us designs.

Steel panels of the type used for the of were used to close the area above door and the opposite end of the ngar, and to cover the door storage wers.

Along each side of the hangar, a an-to about 15 ft. high, 26 ft. wide the top and extending 5 ft. beyond base of the hangar proper is being ilt. The lean-tos will provide space r shops and offices.

A ventilating monitor surmounts the dge of the structure to provide five mplete air changes hourly without echanical blowers.

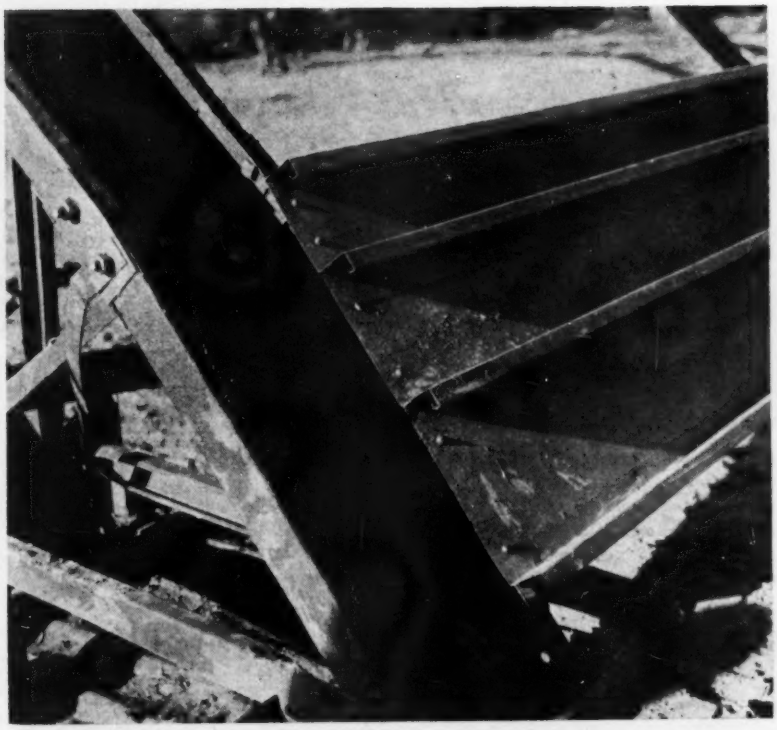


Fig. 3. Roof covering consists of several steel panels of alternating 8, 10 and 14 in. widths bolted to upper chord of arch ribs. Use of scaffold is unnecessary, making for rapid erection.

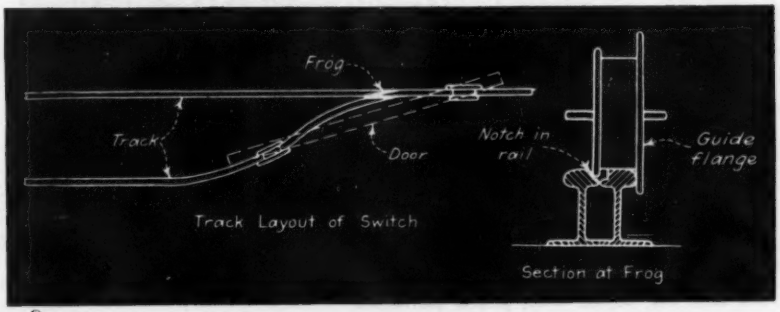


Fig. 4. Layout and detail of track switch for stacking door leaves. When door is opened the 10-ft. 6-in. leaves are stacked parallel in a storage tower at each side of the doorway.

Arch ribs assembled on the ground

Material for the arches arrived on the b in knocked-down form in bundles fficiently compact that all the arch s, tierods and struts for the 160x200- hangar could have been shipped in a ngle railroad box car so far as cubage as concerned, although the weight ould have required two cars. The first ection step consisted of assembling the ground the various segments of e arch ring by connecting the top and ttom chord channels with the short ttice diagonals. Except for the end ctions, these segments were all inter- angeable, which permitted rapid as- mbly. The segments were next laid t to the shape of the arch ring and olted together, with the end sections ttached to a trunnion rod or hinge on ch base plate.

The first two arches for the Wash- gton hangar were raised with a truck rane having a 60-ft. boom. The remaining arches were raised with two 40-ft. leaning poles and a winch truck, a double hitch to the quarter points of the arch ring being used. With the trial hangar erected in Florida a single pivoted pole was used, as shown in Fig. 1, without any major problems being encountered.

Placing of the roof panels on the Washington project started soon after the first few arches were raised and progressed rapidly. The protruding edges of the panels served as a ladder for the workmen, making scaffolding unnecessary.

Building of the lean-tos has been delayed because of the slow delivery of materials.

The new design was prepared by engineers of the American Rolling Mill Co., Middletown, Ohio, at the request of the U. S. Engineers.

Grading, construction of the concrete footings and paving the floor on the Washington project were done by U. S. Engineer forces, Col. John M. Johnson, district engineer; Lt. Col. P. C. Dorr, contracting officer, and Maj. Geo. H. Christensen, resident engineer.

Erection supervision

Erection of the superstructure was by the construction division of Armco Drainage & Metal Products, Inc., Middletown, Ohio. For this firm C. H. Anderson is in general charge and H. R. Bigler is the resident superintendent on the job.

MEN AT WORK

An outstanding team of city engineering and management aggregating 110 years of faithful and continuous service for the city of Jackson, Miss., will be broken up next January when the city's two commissioners retire. Reading from left to right, with length of continuous service shown, are: JOSH J. HALBERT, city engineer and director of public works, 22 yr.; A. F. HAWKINS, commissioner of engineering, 28 yr.; WALTER A. SCOTT, mayor, 28 yr.; and R. M. TAYLOR, commissioner of parks and public buildings, 32 years.

Construction details of a 21-mi. pipeline to bring a new water supply to Wilmington, N. C., are discussed by, left to right: R. I. POOLE, construction engineer, Federal Works Agency; R. N. JONES, job manager for Lock Joint Pipe Co., and ROY P. HESS, superintendent for Price Bros. Co., Dayton, Ohio, general contractor.

Construction and operation of the new water treatment plant at Wilmington, are familiar to, left to right: J. H. SWEENEY, chief engineer of filtration; L. I. LASSITER, sanitary engineer with the city-county health department, and CHARLES PEARSON, resident engineer for W. C. Olson, Raleigh, N. C., consultant on the new water supply improvements.

CAPT. DAVID SMALLHORST (below), e ecutive officer of the War Manpower Co mission's procurement and assignment servi for sanitary engineers. Prior to being co missioned in the Sanitary Corps, Cap Smallhorst was a district engineer with t Texas state department of health.

COL. W. A. HARDENBERGH (below), chi engineer of the Sanitary Corps, under whos direction some 2,400 officers are now en gaged in Army sanitation activities all ove the globe. Prior to being called to servic in 1940, Col. Hardenbergh was a consultin engineer and an editor of Public Work magazine.

Wind tunnel for full scale plane test now in operation in California

One of the largest, wind tunnels in the world, which allows testing of full size air planes with wingspreads up to 75 ft., was placed in operation June 8 at the $10,000,000 Ames Aeronautical Laboratory at Moffett Field, near Sunnyvale, Calif., after more than three years spent in construction.

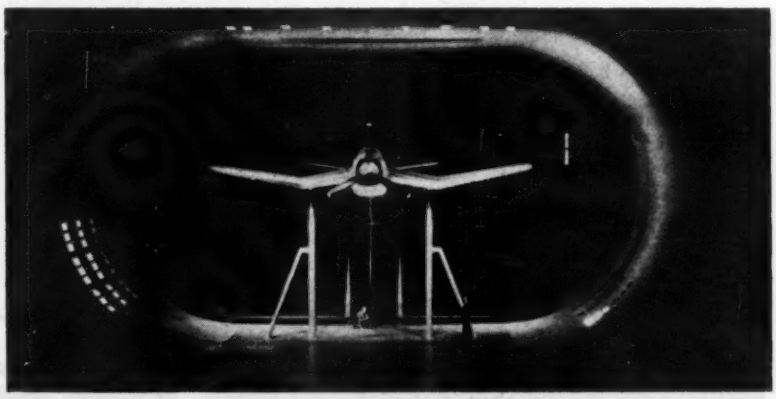
Rushed to completion for use in the present war, the huge tunnel makes possible tests of lift and drag on planes under simulated flight conditions. Unwanted characteristics will be ferreted out and corrective measures applied directly to the full-size plane, with possible margin of error reduced to zero. At the same time, the large tunnel serves as a check on tests in smaller wind tunnels in which only models or parts of planes can be tested.

The actual airplane test chamber is oval in shape, 80 ft. wide and 40 ft. high. At its widest point, the continuous tunnel measures 172½ ft. and in one section is 180 ft. high. Total circuit length of the tunnel, constructed of steel framework with cement asbestos covering, is more than two-fifths of a mile, the entire structure covering eight acres.

Desired air speeds are created by six 6,000 horsepower motors, 10½ ft. high and weighing 57 tons each, mounted in rows of three, one superimposed on the other.

Each motor drives a 40-ft six-bladed spruce fan at speeds varying from 50 to 288 revolutions per minute. At top speed, the fan tips travel about 411 miles an hour. Air speeds to be obtained in the tunnel were not revealed.

Access to the test chamber is controlled by a pair of hydraulically operated doors. A traveling bridge crane of 110 ft. span hoists the plane through the doors and places it on three streamlined struts, connecting to a balance system beneath the chamber where air forces on the plane are automatically recorded. Pittsburgh-Des Moines Steel Co., with J. F. Parsons engineer in charge, built the tunnel for the National Advisory Committee for Aeronautics.



First full size plane to be tested in the throat of the wind tunnel, 80 ft. wide and 40 ft. high. Note man standing by strut on the right and man kneeling in the center. In the background can be seen one set of the 3,880 turning vanes, which direct flow of air around corners of the continuous, rectangular-shaped tunnel.

Michigan allots funds for public works plans

In accordance with legislative action appropriating $5,000,000 for preparing plans and blueprints for postwar construction, many Michigan cities and towns are scheduled to receive disbursements from the state's general fund, according to the American Public Works Association.

Under the program established for disbursement of these funds, the state will pay half the costs of drafting plans, with the remainder being provided by counties, cities, villages, townships and school districts. According to rules adopted by the Michigan State Planning Commission and the state highway department, one-third of the state's share will be paid to local agencies when projects receive initial approval, one-third when completed plans are approved and the rest when local accounts are audited.

Of the total state appropriation, $3,000,000 is allocated to local governmental units on a population basis. Another $1,000,000 is made available, also based on population, to cities, villages and townships for street and public improvement projects. County road commissions will receive $1,000,000 specifically earmarked for road, bridge and grade separation plans.

In the event these state funds are not committed to the various agencies by November the uncommitted portions then may be reallocated.

Shasta Dam power plant to start operation soon

The first unit of the power plant at Shasta Dam is scheduled to go into operation July 5, and the second unit July 20. Each has a rated capacity of 75,000 kw. The 98-mile, 230-kv. transmission line from the dam to the Oroville, Calif., substation is scheduled for completion this month and so will be ready for transmission of power when the plant goes into operation.

Shasta Dam, which will be the second largest masonry structure in the world, is being built by the Bureau of Reclamation. Pacific Constructors, Inc., is the contractor for the dam and powerhouse.

WASHINGTON HIGHLIGHTS

The War Production Board has granted the National Housing Agency permission to issue approvals for the purchase of building materials for all housing that comes under the jurisdiction of any NHA agency without requiring the filing of WPB Form 2896. Previously, this held only for the Federal Public Housing Authority and the Home Owners Loan Corporation, which already were permitted to approve their own construction without filing this form. WPB, however, will still determine quantities of material to be made available.

Separate buildings erected on residential property for commercial use no longer are included under NHA's authority to issue approval. They must have WPB approval, unless the structure is incidental to the functioning of the housing.

Contractors who pay operators and their crews overtime wages for overtime operation of construction equipment, rented on a bare rental basis, can now mark up their service charge to cover the overtime wage, and can add payroll taxes and insurance to their overtime charge. This provision is made by the Office of Price Administration in amendment 15 to MPR 134. Heretofore, there has been no express provision for this frequently necessary charge.

The standard form of contractors' report to the War Contracts Price Adjustment Board by construction contractors, architects, and engineers, is now available for use in renegotiation of contracts.

In making out their reports, contractors and engineers are required to indicate which work was undertaken on a lump-sum or unit-price basis, cost-plus-fixed-fee, and contractors' proportionate share of total joint venture business, and any other form of contract.

Contracts that are subject to renegotiation are those which are held with the War, Navy, and Treasury Departments; Maritime Commission; War Shipping Administration; and the following four subsidiaries of the Reconstruction Finance Corporation: Defense Supplies Corporation, Defense Plant Corporation, Metals Reserve Corporation, and Rubber Reserve Company.

The War Production Board recently made changes in its control over two types of construction equipment. One type, portable concrete mixers, will hereafter be available in the 3½ cu. ft. size which is commonly used for small building purposes. For over a year the smallest size that WPB permitted to be manufactured was 7 cu. ft. A change also is made regarding tractors. Because WPB believes farmers are in greater need of wheel-type tractors than construction contractors are, all persons other than farmers desiring to b such equipment are required to file application form, even though they m have a rating of AA-4 or higher. P viously, contractors with such rati did not have to file.

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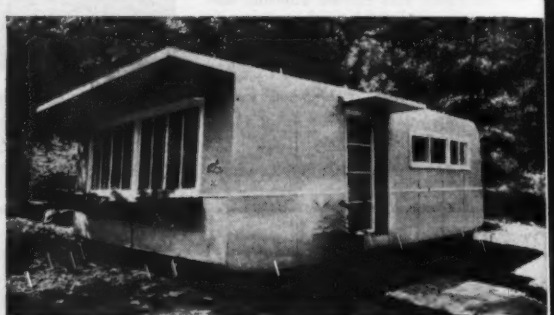
Largest home project starts at San Francisco

Described by Federal Housing A ministration officials as one of the lar est home building projects to be unde taken in the United States, constru tion was started recently in the S Francisco east bay area on San Le enzo Village, consisting of 1,329 ind vidual housing units to be erected at cost of $6,977,000.

The project when finished late th year, will be a complete, suburban tow for 6,000 persons, with a shopping ce ter, theater, schools, playgrounds, pu lic utilities and 30 and 36-ft. wi paved streets.

Contractors for the job are Bohann & Chamberlain of San Mateo, Calif.

The dwellings will be frame an stucco of varied design. They will ha five rooms with a minimum of 1,0 sq.ft. of floor space per house. Und terms of the agreement with the FH only one-third of the total number houses may be sold. The remainder wi be rented. The dwellings placed on sal will be in the $6,000 bracket. The lo will average about 5,000 sq.ft.



British may copy TVA prefabricated houses for postwar housing

Prefabricated houses used by TVA for workers on the Fontana Dam in North Carolina (ENR May 1, 1941, p. 706) may be the model for houses for the quick rehabilitation of bombed-out British cities. According to Prime Minister Winston Churchill's recent broadcast, his government is considering the adoption of a similar type of dwelling to replace war-damaged or destroyed homes, now estimated at more than a million family dwelling units.

Mr. Churchill's statement apparently resulted from the report of a British commission which has been studying American prefabrication methods. The commission reported that:

"If it should be necessary immediately after the war in Europe to build in this country a number of factory-produced houses of temporary character so that the most urgent demand for accommodation may be met without undue delay, we would draw your attention to the stressed skin plywood houses we saw being manufactured for the Tennessee Valley Authority.

"Though they are designed for a life of a few years only, we were informed that these houses, with reasonable attention, would remain in good condition for as long as 10 years. The houses are composed of two o more sections each measuring 8 ft. in width and 24 ft. in length."

TVA prefabricated houses pictured abov now include dwellings with one, two or three bedrooms, complete with finished painting, plumbing, wiring, fixtures and specified furnishings. The units are factory built and have been delivered long distances by trailer. Five men can put up an average two section house in two or three hours after the foundations have been prepared. Assembly is simplified by bolting sections together.

General Mehaffey named Governor of Canal Zone

Brig. Gen. Joseph C. Mehaffey has been made Governor of the Panama Canal Zone. He succeeds Maj. Gen. Glen E. Edgerton to whom the War Department has given a new assignment, which has not been made public.

General Mehaffey rose to the governorship from his assignment as engineer of maintenance. He was succeeded as engineer of maintenance by Col. Francis Newcomer.

Signal Corps photo

Brig. Gen. J. C. Mehaffey

General Mehaffey's first duty at the Panama Canal Zone was from November, 1911, to June, 1912. He returned December, 1929, as assistant maintenance engineer, remaining until August, 1933. He returned again in September, 1941, and has since been serving as engineer of maintenance.

Born in Lima, Ohio, November 20, 1889, General Mehaffey is a graduate of the United States Military Academy, the Engineer School at Washington, the Command and General Staff School at Ft. Leavenworth, Kan.; and the Army War College in Washington.

General Edgerton's first military assignment and his last were both in the Canal Zone. After being graduated from West Point in 1908, he served with the Isthmian Canal Commission in Panama till September, 1909. In October, 1936, he was ordered to Balboa Heights, Panama Canal Zone, as engineer of maintennce, and since July, 1940, has served as Governor of the Panama Canal Department.

Glen Edgerton was born at Parkerville, Kans., April 17, 1887; and before entering West Point was graduated from the Kansas State Agricultural College.

Upon completion of his course at the Command and General Staff School in June, 1924, he served first as assistant chief engineer and later as chief engineer of the Federal Power Commission at Washington. He was then ordered to West Point as assistant professor of civil and military engineering, and served in that capacity until December, 1930. Between that time and August, 1933, he was district engineer at Rock Island, Ill. From 1933 until his assignment in the Panama Canal Zone in 1936, he was on duty in the office of the Chief of Engineers at Washington.

Colonel Newcomer's outstanding service includes action in France during the first World War. He was born in Byron, Ill., September 14, 1889. He is a graduate of West Point, the Engineer School and the Army Engineer and Gas Schools.

He was also graduated, in 1935, from the two-year course at the Command and General Staff School, Ft. Leavenworth, Kans.; and from the Army War College, in 1939. He served as instructor in the Engineer School, Ft. Humphreys, Va., in 1927 and 1928, after having been associate professor at West Point several years earlier.

Signal Corps photo

Maj. Gen. G. E. Edgerton

California sets aside $10,000,000 for Postwar plans and right-of-way

AGC chapters and the League of California cities urged passage of measure to promote employment and obviate a new WPA by a half billion dollar backlog of public works.

The California legislature, in special session on June 14, approved the recommendation of the Southern California chapter, Associated General Contractors of America (*ENR* June 1, p. 785) for the appropriation of $10,000,000 out of state surplus to match city and county allocations for the preparation of plans and specifications, and for the acquisition of sites and rights-of-way for local postwar construction projects.

"This should stimulate the immediate blueprinting of a half-billion dollar backlog of useful public work in California cities and counties for the postwar transition period and help provide insurance against another WPA," said F. J. Connolly, manager of the Southern California chapter.

Representatives of the Southern and Northern California chapters of AGC cooperated with the League of California cities in aiding the passage of the measure, which Governor Earl Warren had placed on his list of matters warranting his call for a special session of the legislature.

In addition to approving this ten-million dollar appropriation, the legislature also raised to $151,700,000 the state's postwar construction funds, thus earmarking most of the state surplus for post war construction, as New York State has done in the case of its surplus.

Annuities proposed for civilian canal-builders

Life annuities for the approximately 800 survivors of the civilian construction men who worked at least three years, between 1904 and 1914, in building the Panama Canal are provided in a measure which has passed both branches of Congress. The act when and if signed by the president, will be administered under the Civil Service Commission.

The measure will give recognition to men who have not received acknowledgement in some other way. Many public health officers, and Army and Navy men who worked on the canal project received promotion in rank. Those civilians who obtained permanent work at the canal, or took government jobs under civil service, enjoy security under retirement acts, but so far there has been no extra reward for these civilian construction workers.

JOBS OF THE WEEK

BUILDINGS, Alameda, Calif.

U. S. Engineer, San Francisco, Calif., awarded a contract for constructing buildings, utilities and roads to Stolte Inc. and Duncanson-Harrelson Co., Oakland, at $2,450,305.

CLIMATIC HANGAR AND TEST ROAD, Elgin Field, Fla.

Robert & Company Associates, Inc., Atlanta, Ga., and J. A. Jones Construction Co., Panama City, Fla., were awarded a contract for constructing and completing climatic hangar and test room by U. S. Engineers, Mobile, Ala., at $2,600,000.

IRON ORE BLAST FURNACE AND CHEMICAL PLANT, Rusk, Tex.

F. H. McGraw & Co., New York, N. Y., will construct an iron ore blast furnace and chemical plant for McCrossin Engineering Co., New York. The estimated cost is $2,500,000. Defense Plant Corp. will finance.

WIDENING RUNWAYS, Fairfield-Suisun, Calif.

J. A. Casson and N. M. Ball & Sons, Berkeley, Calif., was the lowest bidder on widening runways at Fairfield Suisan Air Base, when U. S. Engineers, Sacramento, opened bids, at $1,192,963.

CONCENTRATION CENTER, Oakland, Calif.

Ford J. Twaits Co., San Francisco, Calif., was the lowest bidder when U. S. Engineers, San Francisco, opened bids for constructing concentration center at Army Base, at $1,025,000.

HOUSING, Windsor, Ont.

City of Windsor, A. J. Rheaume, mayor, awarded a contract for constructing 500 permanent houses, to Louis A. Merlo, Windsor. The estimated cost is $2,750,000.

DREDGING, Bremerton, Wash.

Bureau of Yards & Docks, Navy Dept., Washington, D. C., awarded a contract for dredging in Puget Sound Area to Puget Sound Bridge & Dredging Co., Seattle. The estimated cost is $1,000,000.

Note—Additional bidding and contract news on many projects large and small appear in the Construction News section beginning on page 16.

Col. Wyman criticized over Army contracts

A lengthy report of investigations of the national war effort by the House Committee on Military Affairs, dated June 14, is devoted to Col. Theodore Wyman, Jr., the Corps of Engineers, and to his award of government war construction contracts to a German alien.

After recording that Colonel Wyman's conduct in the First World War was so valiant that he was awarded the French Croix de Guerre, the report questions his practices during the present war, particularly in regard to Pearl Harbor contracts and in connection with the Canol project in Alaska.

Pearl Harbor contracts, on the island of Oahu, says the report, were awarded to Hawaiian Constructors, "a member of whom was a German alien"—referring to Hans Wilhelm Rohl. "Although Colonel Wyman has stated that he was not informed that Rohl was a German alien until June or early July of 1941," says the report, "there is reason to believe that he had this information when this contract [at Pearl Harbor] was contemplated."

The report presents testimony "as an indication of Rohl's advance knowledge of contracts to be awarded," and says that "evidence on file indicates that on the morning of the attack Colonel Wyman was at the home of Rohl."

Concerning Pearl Harbor, the report says that the "original basic contract, dated Dec. 20, 1940, provided that the work should be completed within six months, and this included . . . aircraft-warning stations on the islands of Oahu and Kauai." The contract "had not been completed on Dec. 7, 1941, when the Japanese attacked Pearl Harbor, particularly the most important item—the permanent aircraft-warning station—to the advantage of the Japanese and to the detriment of the United States."

Concerning the Canol project, the report says that ". . . on May 5, 1942, Wyman was placed in charge of the Canol project where he awarded another contract to the Rohl-Connolly Co." He was later made Northwest division engineer. Adverse critici the report continues, resulted in an vestigation by the War Department.

That report, made by Col. F Strong, Jr., according to the Ho investigation, recommended "T the Northwest division engineer be lieved. There is no alternative cedure to this recommendation. retainment of the division engineer his present capacity will and m eventuate in disgraceful performance failure. . . .'"

". . . No action . . . has ever b taken on this report," says the Ho committee's report, which goes on quote as follows from a letter fr Julius H. Amberg, special assistant the Secretary of War, dated June 1944, in reply to an inquiry as to w no official action was taken:

" 'Prior to the date on which t report was made, some unfortun personal traits of Col. Theodore W man, Jr., had led the Chief of En neers to take under consideration transfer of that officer to other duti

" 'Since, under date of March 1943, an order had been issued signing Col. Theodore Wyman, Jr., commanding officer of the 398th En neer General Service Regiment, th was no occasion for the Chief of E gineers to take any further action.'"

"This is very difficult to understand says the House Committee's repo ". . . sufficient is known of the acti ties of Colonel Wyman, as set fo herein, to create some doubt as to t attitude of the War Department in fixi responsibility and correcting irregula ties where that officer is concerned. a further explanation is unquestionabl due."

Colonel Wyman has been assigned overseas duty.

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First ore-loading dock for Port Arthur, Ont.

Contract for Canada's first iron-o loading dock at the "head of the lakes Port Arthur, Ont., has been awarded Tomlinson Brothers Ltd., of Toront by the Canadian National Railways a agents for the government. C. D. How and Co. of Port Arthur, are consultin engineers. The contract covers the or dock, the approach trestle and the gra ing for the approach. Pile driving i under way by the Thunder Bay Harbou Improvements Ltd. of Port Arthur.

The new dock is being built to handl the iron ore from the Steep Rock iro mine scheduled to go into productio later this year. Draining of Steep Roc Lake (ENR Aug. 12, 1943, p. 24) preparatory to mining operations is wel advanced.

OBITUARY

Walter Charles Marks, 50, civil engineer, died at Chardon, Ohio, June 4. Formerly he was employed in the Geauga County surveyor's office and in the state highway department.

Dudley E. Wiltse, 56, of Garden City, L. I., N. Y., a civil engineer with the Pennsylvania Railroad, died June 9. Mr. Wiltse joined the railroad in 1911, after he was graduated from New York University with a degree in civil engineering.

William B. Jackson, 67, engaged in sewer work with the Army Engineers for the last nine years, died at Collingswood, N. J., June 7.

Edwin Tomlin, 59, president of the British Columbia Cement Co. Ltd., died in Victoria, B. C., recently.

Thomas G. Kennedy, 69, senior partner of the Kennedy Bros. Contracting Co., Youngstown, Ohio, died June 1 in that city.

Paul W. Robinson, 45, civil engineer, of Oklahoma City, Okla., died there June 7.

Albert J. Miller, 61, since 1941 superintendent of the Elyria, Ohio, waterworks, died in that city June 9. Previously he was an engineer with the National Tube Co. in Lorain.

Henry T. McClelland, 57, manager of the Waynesburg Water Co., Waynesburg, Pa., died June 13. He had been manager for the past 24 years.

William L. Schloss, 61, a leader in the highway construction field for many years, died at Cleveland, Ohio, June 11. Mr. Schloss was founder and president of the Schloss Asphalt Paving and Products Co., which paved and built many of the roads in Cleveland and Cuyahoga County, including Euclid Avenue, Mayfield Road and the Forest Hill development.

Fred E. Glaze, 68, until last September chief of the Denver, Colo., Public Service Co.'s engineering department, died June 8. Mr. Glaze was consultant engineer for mining companies in the Victor and Cripple Creek boom.

Harry W. Mabie, Jr., 52, of the contracting firm of Immel-Mabie Co. of Fond du Lac, Wis., died June 5.

MEETINGS

SEVENTH NATIONAL INSTITUTE FOR WARTIME TRAFFIC TRAINING, Northwestern University, Evanston, Ill., June 19-30.

SOCIETY FOR THE PROMOTION OF ENGINEERING EDUCATION, 52nd annual meeting, Netherland Plaza Hotel, Cincinnati, Ohio, June 22-25.

AMERICAN SOCIETY FOR TESTING MATERIALS, 47th annual meeting, Waldorf-Astoria Hotel, New York, N. Y., June 26-30.

THE AMERICAN SECTION OF THE CHINESE INSTITUTE OF ENGINEERS, annual convention, Hotel New Yorker, New York, N. Y., July 1-3.

AMERICAN SOCIETY OF CIVIL ENGINEERS, annual meeting, Hotel Cleveland, Cleveland, Ohio, July 19-21.

Regional and Local Meetings

SHORT COURSE FOR OPERATORS OF WATER AND SEWAGE PLANTS, Louisiana State University, Baton Rouge, La., June 28-30.

NORTH CAROLINA SOCIETY OF ENGINEERS, annual convention, Wrightsville Beach, N. C., Aug. 4-6.

Caterpillar to build own line of equipment

Departing from its long custom of building tractors, graders and engines for the earthmoving field and depending upon other manufacturers to fill out the line under an allied equipment distribution system, Caterpillar Tractor Co., Peoria, Ill., announces that it will extend its own line of products in the field to become effective at such future time as military requirements make possible. The new products will include a variety of sizes and types of bulldozers, scrapers, rippers, and cable-control units for both crawler tractors and pneumatic-tired prime movers.

For years several outside firms have made allied tractor equipment designed for Caterpillar tractors and sold with the tractors by Caterpillar distributors. These manufacturers included R. G. LeTourneau, Inc., Peoria, Ill., and La-Plant-Choate Manufacturing Co., Cedar Rapids, Ia., both makers of scrapers and bulldozers; Athey Truss Wheel Co., Chicago, crawler wagons and tractor shovel-loaders; Trackson Mfg. Co., Milwaukee, tractor shovels; and Willamette Hyster Co., Portland, Ore., winches and cable control units; The Caterpillar announcement made no mention of which, if any, of these firms would be continued in the allied distribution group. Le Tourneau announced several weeks ago it was pulling away from the group and would market its line of products through its own distributors.

Caterpillar says the new program will "provide customers with a complete package of machinery for earthmoving needs. They will be sold and serviced through Caterpillar distributors and dealers, with the advantage of a single channel of distribution, a single point of responsibility and a single source of service and repair parts."

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Carolina Road Builders Association organized

The Carolina Road Builders Association has been formed to serve both North and South Carolina, and has affiliated with the American Road Builders' Association. Nello L. Teer, Jr., a contractor of Durham, N. C., is the president of the new association, which will have its headquarters in Raleigh, N. C. Other officers are: Vice president, E. H. Hines, Greenwood, S. C.; secretary-treasurer, Warren J. Mann of Raleigh, N. C.; and governors, F. D. Cline, Raleigh, N. C., W. E. Graham, Cleveland, N. C., J. R. Suber, Whitmire, S. C., and T. R. McMeekin, Cheraw, S. D.

WEEKLY CONSTRUCTION SUMMARY

CONTRACTS

Continental U. S. Only (Thousands of Dollars)

	Week Ending June 24 1943	June 15 1944	June 22 1944
Federal	$45,986	$15,554	$20,696
State & Municipal	4,544	7,877	3,879
Total public	$50,530	$23,431	$24,575
Total private	3,212	5,791	3,400
TOTAL	$53,742	$29,222	$27,975
Cumulative 1944 (25 weeks)			$857,353
1943 (25 weeks)			$1,766,252

Note: Minimum size projects included are: Waterworks and waterways projects, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

NEW PRODUCTIVE CAPITAL

	Cumulative 1943 25 Weeks	1944 25 Weeks
NON-FEDERAL	$96,716	$194,572
Corp. Securities	3,571	85,345
State & Mun.	81,012	55,447
RFC Loans	9,000	53,780
FPHA Loans	3,133	.....
FEDERAL	$400,350	$245,266
TOTAL CAPITAL	$497,066	$439,838

ENR INDEX NUMBERS

Index base=100		1913	1926
Construction Cost	June '44	298.72	143.59
Building Cost	June '44	235.33	127.21
Volume	May '44	100.	44.

CONSTRUCTION REPORTS

Compiled by Business News Department—Engineering News-Record, 330 W. 42nd St., New York 18, N. Y.
ELSIE EAVES, Manager *SCOTT McLEOD, Statistics* *J. A. MAHONEY, Reports*
(Daily service also available—Write for details)

WATER SUPPLY

PROPOSED WORK

Calif., San Pedro—Los Angeles Dpt. Water & Power, 207 S. Bway., Los Angeles, installing approx. 100 check valves and miscellaneous fittings for back flow protection to water sys. $151,000. H. A. Van Norman, genl. mgr.

O., Cleveland—City, F. Foy, purch. agt., City Hall, drawing plans watermain, incl. 1,000 ft. 24 in. c.i. and 7,000 ft. 48 in. concrete pipe, Harvard Ave., from Warrensville Center Rd. to Warrensville Reservoir. $125,000. J. H. Hamlin, City Hall, engr.

O., Galion—City, C. R. Geiger, service dir., City Hall, filtering plant, softening plant, pump sta., $200,000; 8- to 18-in. c.i. pipe. $50,000. P. A. Uhlmann, 2525 N. High St., Columbus, consult. engr.

Pa., Zelienople — Boro, C. B. Nesbitt, burgess, Municipal Bldg., making surveys imprv. filtration plant, increasing capacity water supply sys. $25,000. Morris Knowles Co., 1312 Park Bldg., Pittsburgh, engrs.

Tex., Weslaco—V. C. Thompson, secy.-mgr., City Hall, imprv. water sys., to capacity of 1,000 g.p.m. necessitating installing mixing basin, filters, clear water and pump facilities addns. Applied for FWA funds. Valco, Inc., 805 M & M Bldg., Houston, Zone 2, engrs.

Que., Mount Royal (Postal Dist. Montreal)—Municipality, watermains. $60,000. W. Machell, 1020 Laird Blvd., engr.

Que., Three Rivers—Municipality, plans artesian wells. $30,000. J. Arselin, City Hall, engr.

BIDS ASKED

Bids Asked June 29

N. Y., Brooklyn—Adjutant General, Div. Military & Naval Affairs, Executive Dpt., 112 State St., Albany, sanitary work, installing water line sys. for fire protection, 102nd Quartermasters Regiment, Armory, 355 Marcy Ave. Plans deposit $5.

Bids Asked June 30

Wis., Lake (P. O. Milwaukee)—E. Voelker, supt. Town of Lake, Water Utility, 4001 S. 6 St., Milwaukee, drilling well. Plans deposit $5. Mead, Ward & Hunt, 550 State St., Madison engrs. CD 1/11—ENR 1/13.

Bids Asked July 6

Mass., Mansfield—Town, Town Mgr., Town Hall, 11 hydrants, 6,800 ft. 6 in. cement lined pipe, 6,800 ft. cement asbestos water pipe for water sys.

Bids Asked July 7

Mass., Mansfield—Town, Town Hall, laying 6,800 ft. 6 in. watermains. Over $15,000. Plans deposit $5 each set.

Bids Asked July 8

†Md., Hagerstown—At office Mayor, City Hall, 10 m.g.c.d. booster pump. station on bank of Potomac River, Md. 18-114. $22,365. **FWA.** C. W. Stump, Jr., City Hall, city engr. CD 5/26—ENR 6/1.

Bids Asked July 10

Ill., Chicago—City, City Hall, superstructures of filter bldg. and administration bldg. of South District Filtration Plant, Lake Front, east of South Shore Dr. and north of E. 79 St. Plans deposit $50 each set. O. E. Hewitt, comr. P. Wks.; adv. ENR 6/22.

Bids Asked Before July 11

†O., Akron—City, M. L. Davis, service dir., 30 in. watermain to airport dist. starting at E. Market St. and Massillon Rd., Ohio 33-291-N. $101,850. **FWA.** CD 6/13—ENR 6/15.

LOW BIDDERS

Ga., Columbus—Bd. Comrs. Muscogee Co., WW sys., from J. B. McCrary Co., 22 Marietta St. Bl., Atlanta, Item 1. **$64,885.** CD 5/1—ENR 5/4.

†Tenn., Memphis—City, Light, Gas & Water Div., c/o Major T. H. Allen, 179 Madison St., June 5, exten. watermains to airport, Tenn. 40-262, from Volz Constr. Co., Ripley. **$179,334.** Est. $198,518. **FWA.** CD 5/26—ENR 6/1.

Tex., Crowell—City, J. P. Davidson, secy., June 10, WW imprvs., from Wells Plumbing Co., Quanah, approx. **$100,000.** CD 5/31.

Tex., Houston—City, M. H. Westerman, secy., City Hall, June 7, 8 in. c.i. mains in sections 74 St., 12 in. section Capitol Ave., 79 St., and sections 77 St., Navigation Blvd., 8 in. in sections 75 St., from Bishop Brick Co., 2302 Jefferson Ave., **$37,639** and **$46,341** respectively, using mechanical spigots.

Symbols and Abbreviations Include:

† Federal Government
★ Project of $500,000 or over
ENR Engineering News-Record
CD Engineering News-Record Construction Daily
A-E-M Architect-Engineer-Management type of contract

Projects—By Size

Construction projects here reported cover the United States and Canada, are of these minimum sizes or larger; water supply, earthwork, waterworks, $15,000; other public works, $25,000; industrial buildings, $40,000; other buildings, $150,000.

Classes of Construction

(Named in order of Listing)

Water Supply
Sewers, Waste Disposal
Bridges
Streets & Roads
Earthwork, Waterways
Unclassified
Latin America
Public Buildings
Commercial Buildings
Industrial Buildings

Stages Reported

PROPOSED: (except Streets & Roads);
BIDS ASKED (new announcements only. For full calendar, see also preceding issues of ENR);
LOW BIDDERS: On jobs below $500,000 value all low bidder news will be the final reports published on the projects involved except where award is not made to the low bidder. In this case, a supplementary contract award report will be published.
CONTRACTS AWARDED: Except awards to low bidders previously reported in low bidder stage.

Dates shown are of issue in which last previous report was published.

Note: To comply with censorship requirements, addresses on some reports are being generalized. Data which would reveal the purpose of the improvements and the size are withheld, the name of contractor and general area are reported.

CONTRACTS AWARDED

†Fla., Jacksonville—City, imprv. water sys., laying larger trunk line pipe in certain areas stepping up pressure, and installing 2 new pumps, Fla. 8-298-N, to Boyd & Goforth, 1226 W. Forsythe St., **$124,426. FWA.** Bids 6/8, awarded 6/9. CD 6/1.

†Ga., Thomasville—City and City Council, City Hall, Div. 2, WW exten., and sewerage disposal plant, GA. 9-281, to Scott Constr. Co., Thomasville, **$251,478. FWA.** CD 6/9—ENR 6/15. under LB.

†Ill., Great Lakes—Yards & Docks, Navy Dpt., 18 St. and Constitution Ave. N.W., Wash., 25, D. C., addnl. water filtration facilities, Naval Training Center, NOY 9955, to S. N. Nielsen Co., 2059 August Blvd., Chicago, Zone 22, **$85,870.**

†Ill., Seneca—Pub. Housing Auth., NHA, 201 N. Wells St., Chicago, removing 2 overhead water storage tanks at Kingsford Heights, Ind. housing and re-erecting same at housing, Ill. 11-214, to W. J. Lazynski, Inc., 906 E. Center St., Milwaukee, W... **$18,280.**

Ill., Westchester—Westchester-Broadv... Water Comn., Village Hall., water sup... sys., pump house, 20 x 20 ft. concrete re... voir, to G. Hardin, 3139 S. Indiana A... Chicago, **$25,000.** E. Hancock, 1500 ... Jackson Blvd., Chicago, engr.

†Md., Annapolis—Yards & Docks, N... Dpt., 18 St. and Constitution Ave. N.... Wash., 25, D. C., deep water well, N. Sea... Activities, U. S. Naval Academy, NOY 9... to Layne-Atlantic Co., P. O. Box 1568, N... folk, Va., **$16,550.** CD 5/9—ENR 4/27.

†N. J., Metuchen—U. S. Eng., 120 W... St., New York, N. Y., salt water pump, ... and fire lines at military encampment, ... Reese-Tubman Co., 11 Bway., New Yo... N. Y., **$22,145.**

Wis., Waukesha—Borden Co., A. Robi... mgr., 1171 Riverside Dr., pump statio... pipelines and reservoir repair, to Selzer-O... Co., 6222 W. State St., Wauwatosa, $22,... J. Donohue Eng. Co., 608 N. 8 St., Sheboyga... engrs.

SEWERS, WASTE DISPOSAL

PROPOSED WORK

Calif., San Diego—City, Civic Center Bld... postponed indefinitely bids to have be... opened June 13, Powder House Canyo... Trunk Sewers 7, Unit 2. CD 5/22—EN... 5/25.

Conn., New Britain—City Dpt. P. Wo... City Hall, storm and sanitary sewe... Beverly Ave., Greenfield Dr., Cooper, Ea... Vibbert, First, Lester, Second, Lincoln a... Sherwood Sts. Over $25,000.

Ind., Valparaiso—Bd. P. Wks., G. ... Conover, Mayor, chn., City Hall, repairs, ... rebuilding, piling and relaying sewer, D... Sewer 1, $30,000. Phelps & Peck, Brinck... mann Bldg., Michigan City, engrs.

Mo., Grandview—Addnl. sewers. $96,0... Applied to FWA. Chas. A. Haskins & C... Finance Bldg., Kansas City, Mo., engrs.

O., Bryan—City, C. F. Hester, clk., C... Hall, bond election in November, sto... sewers, various sects., $197,000; enclosi... sewer in Garver Park, $25,000; tiling Ly... Run, $154,000; sewer outlet, Myers St., ... $40,000, sewer Edgerton, $30,000, Union St., ... $10,500, Pigeon Run, $55,000. C. D. Decke... City Hall, city engr.

O., Cleveland—City, F. Foy, purch. ag... City Hall, installing sewers, Bucyrus Av... from W. 42 to 47 Sts., and Wichita Av... from Pearl Rd. to W. 49 St. Over $25,00... J. C. Wenruth, 518 City Hall, city engr.

O., Columbus—State, H. R. Mooney, di... P. Welfare, Columbus, sewage disposa... plant, Grafton. $50,000. T. E. Brand, Stat... Office Bldg., state archt.

O., University Heights—E. W. Aurelius, ... mayor, City Hall, sewer repairs. $53,00... Havens & Emerson, Leader Bldg., Cleveland, ... engrs.

O., Youngstown—F. Cavaller, dir. Finance, ... City Hall, drawing plans, brick, steel, con... crete superstructure incinerator bldg. Total ... est. $175,000. J. R. Wile, 529 Willis Ave., ... engr. CD 5/9—ENR 5/11.

†Tex., Harlingen—U. S. Eng., 25 St. and ... Avenue F, Galveston, postponed bids to have ... been opened June 7, reconstructing sanitary ... sewerage sys., Sol. 41-243-44-C191.

Wis., Elm Grove—Elm Grove Sanitary ... Dist. 1, S. N. Loftus, secy., sewage treatment ... plant. Over $25,000. Jerry Donohue Eng. ... Co., 608 N. 8 St., Sheboygan, engrs.

Wis., Portage—Mrs. F. Wright, city clk., ... City Hall, new digester, 2 rein.-con. settling ... tanks, collector equip., piping, etc., for sew... age treatment plant alterations, $29,516. ... General Engr. Co., Portage, engrs.

★**B. C., Vancouver** — City Clerk, exten... sewer and WW. $650,000.

Ont., Burlington—Municipality, M. Bush, ... clk., Burlington, sewers. $25,000.

Ont., Humberstone—Municipality, W. G. ... Pietz, clk., sewage disposal plant. $75,000. ... C. R. Hagey Eng. Co., Ltd., Fort Erie, engrs.

Ont., Tecumseh—Municipality, c/o W. V. ... Boutellier, clk., drainage sys. $30,000. C. G. ... Armstrong, Bartlet Bldg., Windsor, engr.

Ont., Oakville—Town, F. M. Deans, mayor, ... Colborne St. E., 750,000 gal. daily capacity ... sewage disposal plant, with carrying of 20,... 000 gal. overflow. $85,000. E. H. Darling, ... 36 James St., Hamilton, engr.